

**METHODS AND APPARATUS FOR FORMING A
CHLORINE-DOPED OPTICAL WAVEGUIDE PREFORM**

Abstract of the Disclosure

5 A method of manufacturing an optical waveguide preform includes exposing a
soot preform to an atmosphere including a chlorine-containing compound and thereby
doping the soot preform with chlorine, wherein the absolute pressure of the atmosphere
is greater than about 1.013×10^2 kPa. An apparatus for manufacturing an optical
waveguide preform using a soot preform includes a furnace defining a chamber adapted
10 to contain the soot preform and including a heating device operable to heat the
chamber. A fluid control system is operable to provide an atmosphere including a
chlorine-containing compound in the chamber at an absolute pressure of greater than
about 1.013×10^2 kPa.

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